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IS 8127 (2005): Guide Bushes for Press Tool Die Sets [PGD
4: Metal Forming Machines]

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भारतीय मानक

प्रैस टूल डाइ समुच्चय के गाईड बुश — विशिष्टि
(दूसरा पुनरीक्षण)

Indian Standard
GUIDE BUSHES FOR PRESS
TOOL DIE SETS — SPECIFICATION
(Second Revision)

ICS 25.120.10

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BUREAU OF INDIAN STANDARDS
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FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Metal Forming Machines Sectional Committee had been approved by the Medical Instruments, General and Production Engineering Division Council.

This standard was first published in 1975 covering guide bushes for sizes up to 50 mm diameter only. In the first revision guide bushes, up to 100 mm diameter were covered to include the need for large press tool sets. This standard has been taken up to update the present changes in technology and to adopt latest practices accepted internationally in Indian engineering industry.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

GUIDE BUSHES FOR PRESS TOOL DIE SETS — SPECIFICATION

(Second Revision)

1 SCOPE

This standard covers requirements for the three types of guide bushes, namely, stepped solid guide, plain solid and ball type guide bushes used for flexing by light press fit H₆ bores of top tool holders in press tool sets.

2 REFERENCES

The following standards contain provisions which through reference in this text constitute provision of this standard. At the time a publication the editions indicated were valid. All standards are subject to revision and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	Title
2102 (Part 1) : 1993	General tolerances : Part 1 Tolerances for linear and angular dimensions without individual tolerance indications (<i>third revision</i>)
2898 : 1976	Specification for steel balls for rolling bearings (<i>first revision</i>)

3 TYPES

Guide bushes for press tool die sets are classified as follows:

- a) *Type A* — Stepped solid guide bushes,
- b) *Type B* — Plain solid guide bushes, and
- c) *Type C* — Ball type guide bushes.

4 DIMENSIONS

Dimensions of all three types of guide bushes for press tool die sets are given in Table 1.

5 GENERAL REQUIREMENTS

The steel balls for Type C guide bushes shall conform to Grade 20 of IS 2898.

6 MATERIAL

6.1 Type A and Type B Guide Bushes

Material shall be of suitable case hardened steel

with a minimum case depth of 0.8 mm.

6.2 Type C Guide Bushes

Material for bush, cage, ball of guide bushes shall be as follows:

- a) *Bush* — Shall be of suitable case hardened steel with case depth of 1.0 to 1.5 mm.
- b) *Cage* — Shall be of aluminium or brass.
- c) *Balls* — Shall be conforming to IS 2898.

7 HARDNESS

Hardness of guide bushes shall be 61 to 63HRC.

8 DESIGNATION

8.1 A guide bush of Type A having $d_1 = 40$ mm and $l = 80$ mm shall be designated as:

Guide Bush A 40 × 80 IS 8127

8.2 A guide bush of Type B having $d_1 = 40$ mm and $l = 80$ mm shall be designated as:

Guide Bush B 40 × 80 IS 8127

8.3 A guide bush of Type C having $d_1 = 40$ mm shall be designated as:

Guide Bush C 40 IS 8127

9 MARKING

9.1 The guide bushes shall be marked at an appropriate place with the bore size, length and type of bush with designation given above and also with the manufacturer's name or trade-mark.

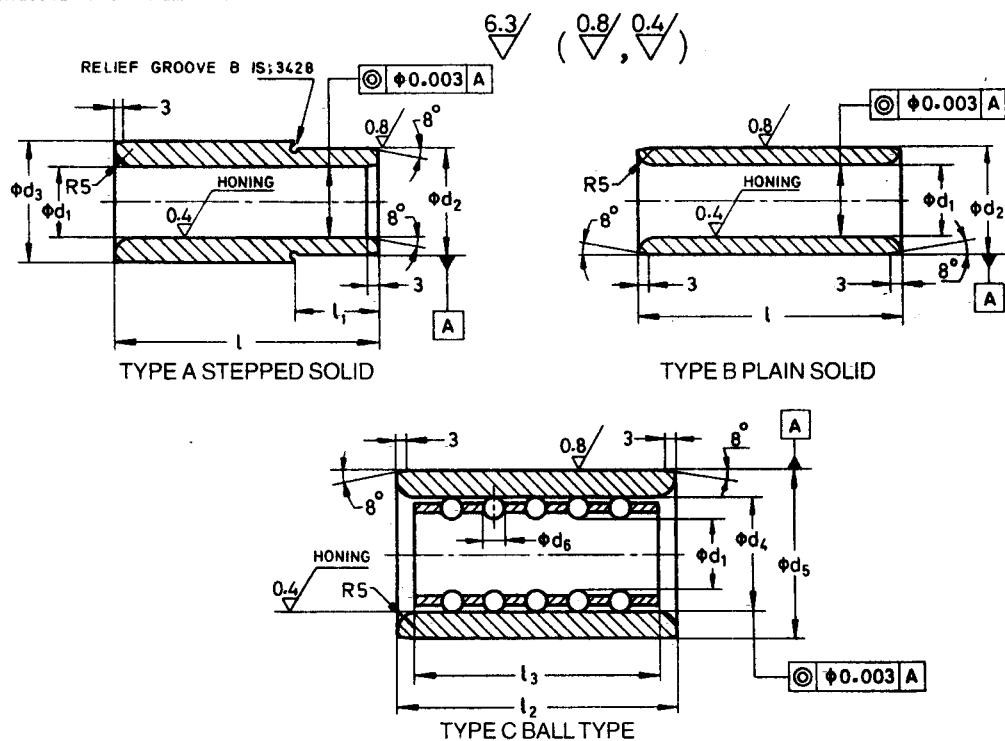
9.2 BIS Certification Marking

Each guide bush may also be marked with the Standard Mark.

9.2.1 The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

Table 1 Dimensions for Guide Bushes for Press Tool Die Sets

(Clause 4)



All dimensions in millimetres.

d_1	Types A and B				Type C				
	d_2	d_3	l_1	l	d_4 -0.010 -0.014	d_5	d_6 ⁽¹⁾	l_2	l_3
H_5 (1)	p_4 (2)	(3)	(4)	(5)	p_4 (6)	(7)	(8)	(9)	(10)
15	26	32	19	30, 50, 75	23	36	4	70	62
16	26	32	19	30, 50, 75	24	36	4	70	62
19	30	36	24	35, 50, 75	27	47	4	80	70
20	30	36	24	35, 50, 75	28	47	4	80	70
24	38	44	30	40, 60, 80	32	52	4	90	80
25	38	44	30	40, 60, 80	33	52	4	90	80
30	44	50	36	50, 70, 90, 110	38	60	4	100	90
32	44	50	36	50, 70, 90, 110	40	60	4	100	90
38	56	62	46	60, 80, 100, 120	46	70	4	110	98
40	56	62	46	60, 80, 100, 120	48	70	4	110	98
48	68	78	56	70, 90, 110, 125	60	80	6	125	112
50	68	78	56	70, 90, 110, 125	62	80	6	125	112
63	82	92	70	90, 110, 125	75	95	6	140	125
80	100	110	85	100, 125, 150	92	114	6	160	140
100	120	130	105	125, 150, 180	112	137	6	180	160

NOTES

- Suitable lubricating arrangement shall be provided for the bushes.
- Diameter d_1 to be kept for a minimum length equal to the lowest value of l (given in the table above), from the bottom end of the bush and the top portion may be relieved to $d_1 + 0.5$ mm.
- According to IS 2102 (Part 1).

⁽¹⁾ See 5.

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Amendments Issued Since Publication

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